

**REMARKS**

Claims 1, 2, 6, 8, 11, 15 and 16 are pending in this application. By this Amendment, claims 1, 6, 15 and 16 are amended, and claims 3-5, 7, 9, 10, 12, 13 and 14 are canceled without prejudice to or disclaimer of the subject matter recited therein. Applicant reserves the right to file a divisional application to pursue the subject matter of non-elected claims 13 and 14. Claim 1 is amended to incorporate the subject matter of claims 5 and 7, and claims 6, 15 and 16 are amended for consistency and to correct a minor informality, respectively. No new matter is added.

**I. §102(b) Rejections of Claims 1, 3, 5, 8 and 16**

The Office Action rejects claims 1, 3, 5 and 16 under 35 U.S.C. §102(b) over Iio, U.S. Patent No. 4,886,392; and rejects claims 1 and 8 under 35 U.S.C. §102(b) over Shioya, U.S. Patent No. 5,875,953. The rejection of canceled claims 3 and 5 is moot. The rejections of the remaining claims are respectfully traversed.

The Office Action acknowledges that each of Iio and Shioya fails to disclose or suggest the features recited in canceled claim 7 which are incorporated into claim 1. Thus, claim 1 is patentable over each of Iio and Shioya for at least this reason.

Further, Iio fails to disclose or suggest that the groove forming step forms a plurality of grooves in a direction that the engaging hole is formed, as now recited in claim 1. Iio teaches straight annular grooves 16 formed in the shaft hole 5 of a rotor 8 (Fig. 4, col. 4, lines 58-62). As is clearly shown in Fig. 4, the grooves 16 are perpendicular to a direction that the shaft hole 5 is formed, and not in a direction that the engaging hole is formed, as now recited in claim 1.

Because claims 8 and 16 incorporate the features of claim 1, these claims also are patentable over Iio and Shioya. Therefore, it is respectfully requested that the rejections be withdrawn.

**II. §103(a) Rejections of Claims 2, 4, 6, 7, 11 and 12**

The Office Action rejects claims 2 and 11 under 35 U.S.C. §103(a) over Sarkar et al. (Sarkar), U.S. Patent Application Publication No. 2004/0066102 A1, in view of Iio; rejects claims 4, 6 and 7 under 35 U.S.C. §103(a) over Iio in view of Murakami et al. (Murakami), U.S. Patent No. 5,032,036; and rejects claim 12 under U.S.C. §103(a) over Iio in view of Ross et al. (Ross), U.S. Patent No. 5,207,525. The rejections of canceled claims 4, 7 and 12 are moot. The rejections of the remaining claims are respectfully traversed.

Each of Sarkar and Murakami fails to overcome the deficiencies of Iio with respect to claim 1, the claim from which claims 2, 6 and 11 depend. Thus, these claims also are patentable over the combinations of the above references.

Further, with respect to the previous rejection of claim 7, the features of which now appear in claim 1, the combination of Iio and Murakami fails to disclose or suggest the grooves are slanted in a circumferential direction, as now recited in claim 1. Although the Office Action acknowledges that Iio fails to disclose that the grooves are slanted in a circumferential direction, the Office Action asserts that slanted grooves 20 are disclosed by Murakami (see Figs. 1 and 3). However, the slanted grooves 20 are formed on the outer surface of the pump shaft 3 (allegedly corresponding to the claimed inserting member), not on the inner periphery of the pulley seat 5 (allegedly corresponding to the claimed receiving member) (Figs. 1 and 3). Further, the biting protrusions 21 that are formed in the inner periphery of the pulley seat 5 are not grooves, but are protrusions. Thus, one skilled in the art would not have been motivated to combine the teachings of Murakami with the teachings of Iio to result in the forming step that forms a plurality of grooves in a direction that the

engaging hole is formed, and the grooves are slanted in a circumferential direction, as recited in claim 1.

When the grooves on the inner periphery of the receiving member are slanted in a circumferential direction, as recited in claim 1, the groove forming step for the grooves is simplified (see page 12, lines 14-20 of the specification). Accordingly, the manufacturing cost is reduced. The combination of Iio and Murakami does not disclose or suggest this advantage. Thus, claim 1 is patentable over Iio and Murakami, either individually or in combination.

Therefore, it is respectfully requested that the rejection be withdrawn.

**III. §103(a) Rejection of Claims 9, 10 and 15**

The Office Action rejects claims 9, 10 and 15 under 35 U.S.C. §103(a) over Iio. The rejection of canceled claims 9 and 10 is moot. The rejection of claim 15 is respectfully traversed.

Iio fails to disclose or suggest punching an engaging hole in the receiving member while forming a sheared surface and a fractured surface on an inner periphery of the receiving member, the inner periphery created by the engaging hole; and press-fitting the inserting member in the receiving member by inserting the inserting member from an end of the receiving member adjacent to the sheared surface, as recited in independent claim 15.

The Office Action acknowledges that Iio fails to disclose that the shaft hole 15 is formed by punching. However, the Office Action asserts that such would have been obvious because the punching process was well known in the art at the time of the invention. The Office Action further asserts that "either end of the receiving member could be considered to be adjacent to the sheared surface." Applicant respectfully disagrees with this assertion.

As a result of the punching, the claimed sheared surface is formed on a top portion of the inner surface of the claimed engaging hole, and the claimed fractured surface is formed on

a bottom portion of the inner surface of the claimed engaging hole (see, for example, Applicant's Fig. 4). Thus, the inner surface of the claimed engaging hole includes a sheared surface and a fractured surface. Accordingly, the two ends of the receiving member can not be considered to be adjacent to the sheared surface, as asserted by the Office Action. Further, the claimed inserting member is inserted into the claimed receiving member from the top portion (i.e., the sheared surface side) of the claimed engaging hole, not from the bottom portion (i.e., the fractured surface side) of the claimed engaging hole.

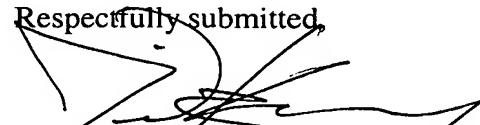
As acknowledged by the Office Action, Iio fails to disclose that the inner surface of the shaft hole 15 includes a sheared surface and a fractured surface, and there is no evidence that one skilled in the art would insert the inserting member from an end of the receiving member adjacent to the sheared surface based on the teaching of Iio. Accordingly, Iio fails to disclose or suggest press-fitting the inserting member in the receiving member by inserting the inserting member from an end of the receiving member adjacent to the sheared surface, as recited in claim 15, and not from the fractured surface side of the engaging hole.

Further, the inserting member can be more easily set in the receiving member from the sheared surface side than on the fractured surface side (see page 4, lines 13-18 of the specification). Iio does not disclose and suggest this advantage. Therefore, claim 15 is patentable over Iio. Thus, it is respectfully requested that the rejection be withdrawn.

#### **IV. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of all pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,  
  
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